

LISTING OF CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

Claims 1-22 (Canceled).

23. (Currently Amended): An image input apparatus comprising:

a first image pickup unit configured to optically scan a subject and thereby to acquire plural images an image of the subject ~~that are partial images of the subject, wherein said first image pickup unit is further configured to obtain the partial images by moving in a plane that is parallel to a plane of the subject and without touching the subject;~~

a recording unit configured to record a series of overlapped partial images selectively acquired by the first image pickup unit;

a second image pickup unit ~~which~~ configured to continuously pick up the a secondary image of the subject that corresponds with a portion of the subject is being scanned by the first pickup unit;

an overlapping amount calculating unit configured to calculate an amount of overlap between ~~the partial images picked up~~ corresponding to potentially recordable partial images being acquired by said first image pickup unit based upon the secondary image picked up by said second image pickup unit; and

an image recording determination unit configured to ~~determine whether or not~~ output a recording indicating signal when a current ~~partial image obtainable from the first image pickup unit~~ is to be recorded as one of the series of overlapped partial images based upon the an amount of overlap calculated by the overlapping amount calculating unit[[,]]; and said image recording unit including

a control unit configured to be responsive to the recording indicating signal
~~determination that a current partial image is to be recorded~~ to automatically ~~perform~~ cause the
recording by the recording unit of the current image obtainable from the first image pickup
unit recording unit.

24. (Currently Amended): An image input apparatus comprising:

a first image pickup unit configured to optically scan a subject and thereby to acquire
~~plural images~~ an image of the subject ~~that are partial images of the subject, wherein said first~~
~~image pickup unit is further configured to obtain the partial images by moving in a plane that~~
~~is parallel to a plane of the subject and without touching the subject;~~

a recording unit configured to record a series of overlapped partial images selectively
acquired by the first image pickup unit;

a second image pickup unit ~~which~~ configured to continuously pick up the a secondary
image of the subject that corresponds with a portion of the subject is being scanned by the
first pickup unit;

an overlapping amount calculating unit configured to calculate an amount of overlap
~~between the partial images picked up~~ corresponding to potentially recordable partial images
being acquired by said first image pickup unit based upon the secondary image picked up by
said second image pickup unit;

a timer configured to count time that has elapsed from when a previous partial image
was acquired; ~~and~~

an image recording determination unit configured to ~~determine whether or not~~ output
a recording indicating signal when a current ~~partial~~ image obtainable from the first image
pickup unit is to be recorded as one of the series of overlapped partial images based on ~~an~~

information including the an amount of overlap calculated by the overlapping amount calculating unit and the time counted by said timer; and

a control unit configured to be responsive to the recording indicating signal to automatically cause the recording by the recording unit of the current image obtainable from the first image pickup unit.

25. (Currently Amended): The image input apparatus according to claim 23, wherein said image recording determination unit is further configured to stop ~~acquiring~~ the recording of the partial images when an amount of shift of said first image pickup unit is greater than a desired value.

26. (Currently Amended): The image input apparatus according to claim 23, further comprising an image composing unit configured to compose all or a portion of the recorded series of overlapped partial images of the subject to obtain a single image.

Claims 27-35 (Canceled).

36. (Currently Amended): An image input apparatus comprising:
a first optical scanning and pickup means for optically scanning a subject ~~by moving the first optical scanning and pickup means in a plane that is parallel to a plane of the subject without touching the subject to~~ thereby acquire ~~plural partial images~~ an image of the subject;
a recording means for recording a series of overlapped partial images selectively acquired by the first optical scanning and pickup means;

a second optical scanning and pickup means for scanning and continuously picking up ~~an~~ a secondary image of the subject that corresponds with a portion of the subject being scanned by the first optical scanning and pickup means;

an overlapping amount calculating means for calculating an amount of overlap between images corresponding to potentially recordable ~~the~~ partial images picked up by said first optical scanning and pickup means based upon the secondary image picked up by said second optical scanning and pickup means; ~~and~~

an image recording determination means for ~~determining whether or not~~ outputting a recording indicating signal when a current ~~partial~~ image obtainable from the first optical scanning and pickup means is to be recorded as one of the series of overlapped partial images based upon the an amount of overlap calculated by the overlapping amount calculating means[,,]; ~~and said image recording means including~~

a control means responsive to the recording indicating signal ~~determination that a current partial image is to be recorded~~ for automatically ~~performing~~ causing the recording by the recording means of the current image obtainable from the first optical scanning and pickup means.

37. (Currently Amended): The image input apparatus according to claim 36, wherein said image recording determination means stops ~~acquiring~~ the recording of the partial images when an amount of shift of said first image pickup means is determined to be greater than a desired value.

38. (Currently Amended): The image input apparatus according to claim 36, further comprising an image composing means for composing all or a portion of the recorded series of overlapped partial images of the subject to obtain a single image.

39. (Previously Presented): An image input apparatus comprising:

a first optical scanning and image pickup means for optically scanning a subject ~~by moving the first optical scanning and pickup means in a plane that is parallel to a plane of the subject without touching the subject to~~ thereby acquire ~~plural partial images~~ an image of the subject from the first optical scanning and image pickup mean;

a recording means for recording a series of overlapped partial images selectively acquired by the first optical scanning and pickup means;

a second optical scanning and pickup means for scanning and continuously picking up ~~an~~ a secondary image of the subject that corresponds with a portion of the subject being scanned by the first optical scanning and pickup means;

an overlapping amount calculating means for calculating an amount of overlap between images corresponding to potentially recordable ~~the~~ partial images picked up by said first optical scanning and pickup means based upon the secondary image picked up by said second optical scanning and pickup means;

a timer means for counting time that has elapsed from when a previous partial image was acquired; ~~and~~

an image recording determination means for ~~determining whether or not~~ outputting a recording indicating signal when a current ~~partial~~ image ~~being scanned by~~ obtainable from the first optical scanning and pickup means can be recorded as one of the series of overlapped partial images based on information including the amount of overlap calculated by the overlapping amount calculating means and the time counted by said timer means; ~~and~~

a control means responsive to the recording indicating signal for automatically causing the recording by the recording means of the current image obtainable from the first optical scanning and pickup means.

.40. (Currently Amended) An image inputting method comprising steps of:

optically scanning a subject with a first optical scanning and pickup unit by moving the first optical scanning ~~image~~ and pickup unit in a plane that is parallel to a plane of the subject without touching the subject to acquire plural partial images of the subject from the first optical scanning and pickup unit;

scanning and continuously picking up an image of the subject with a second optical scanning and pickup unit;

calculating an amount of overlap ~~between~~ based upon the partial ~~images~~ image picked up by said first optical scanning and pickup unit ~~based upon~~ and the image picked up by said second optical scanning and pickup unit, wherein the calculated amount of overlap is the amount of overlap between the partial image picked up by said first optical scanning and pickup unit and the image picked up by said second optical scanning and pickup unit;

determining whether or not a current partial image is to be recorded based upon the amount of overlap calculated in the calculating step; and

automatically performing recording responsive to the determining step determining that a current partial image is to be recorded.

Claim 41 (Previously Presented) The image inputting method according to claim 40, further comprising a step of determining that an amount of shift of said first optical scanning and pickup unit is greater than a desired value and stopping the further acquiring of the partial images.

42. (Currently Amended) The image input ~~apparatus~~ method according to claim ~~36~~ 40, further comprising a step of composing all or a portion of the partial images of the subject to obtain a single image.

43. (Currently Amended) An image inputting method comprising steps of:

optically scanning a subject with a first optical scanning and pickup unit by moving the first optical scanning ~~image~~ and pickup unit in a plane that is parallel to a plane of the subject without touching the subject to acquire plural partial images of the subject from the first optical scanning and pickup unit;

scanning and continuously picking up an image of the subject with a second optical scanning and pickup unit;

calculating an amount of overlap between the partial images picked up by said first optical scanning and pickup unit based upon the image picked up by said second optical scanning and pickup unit;

counting time that has elapsed from when a previous partial image was acquired; and

determining whether or not a current partial image being scanned by the first optical scanning and pickup unit can be recorded based on information including the amount of overlap calculated in the calculating an amount of overlap step and the time counted by the counting time step.

44. (New): The image input apparatus according to Claim 23, wherein the first image pickup unit and the second image pickup unit acquire images from substantially same areas.

45. (New): The image input apparatus according to Claim 23, wherein the resolution of the secondary images acquired by the second image pickup unit is lower than the resolution of the images acquired by the first image pickup unit.

46. (New): The image input apparatus according to Claim 24, wherein the first image pickup unit and the second image pickup unit acquire images from substantially same areas.

47. (New): The image input apparatus according to Claim 24, wherein the resolution of the secondary image acquired by the second image pickup unit is lower than the resolution of the images acquired by the first image pickup unit.

48. (New): The image input apparatus according to Claim 36, wherein the first optical scanning and pickup means and the second optical scanning and pickup means acquire images from substantially same areas.

49. (New): The image input apparatus according to Claim 36, wherein the resolution of the secondary image acquired by the second optical scanning and pickup means is lower than the resolution of the images acquired by the first optical scanning and pickup means.

50. (New): The image input apparatus according to Claim 39, wherein the first optical scanning and pickup means and the second optical scanning and pickup means acquire images from substantially same areas.

51. (New): The image input apparatus according to Claim 39, wherein the resolution of the secondary image acquired by the second optical scanning and pickup means is lower than the resolution of the images acquired by the first optical scanning and pickup means.